



An Amateur Radio publication for the Microwave Enthusiast

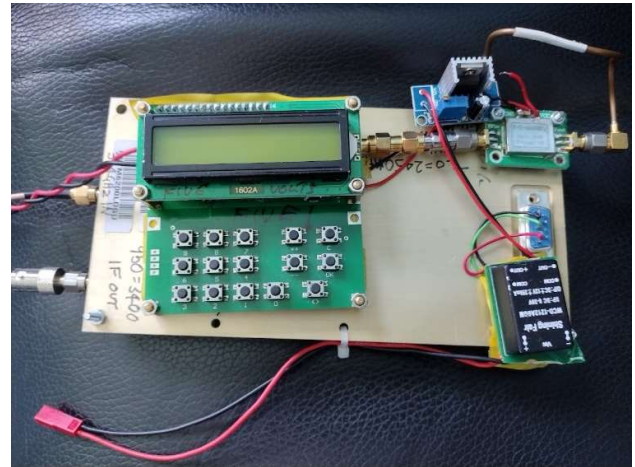
scatterpoint

July 2022

Published by the UK Microwave Group

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IONICA LO using ADF4351 – Gareth G4XAT



GB3UVR 10GHz Beacon – Paul GW0MDQ

Subscription Information

The following subscription rates apply.

UK £600 US \$1200 Europe €10 00

This basic sum is for **UKuG membership** For this you receive Scatterpoint for **FREE** by electronic means (now internet only) via

<https://groups.io/g/Scatterpoint> and/or

DropboxAlso, **free access to the Chip Bank**

Please make sure that you pay the stated amounts when you renew your subs next time If the amount is not correct your subs will be allocated on a pro-rata basis and you could miss out on a newsletter or two!

You will have to make a quick check with the membership secretary if you have forgotten the renewal date Please try to renew in good time so that continuity of newsletter issues is maintained Put a **renewal date reminder** somewhere prominent in your shack

Please also note the payment methods and be meticulous with PayPal and cheque details

PLEASE QUOTE YOUR CALLSIGN!

Payment can be made by: PayPal to

payukug@microwavers.org

or a cheque (drawn on a UK bank) payable to 'UK Microwave Group' and sent to the membership secretary (or, as a last resort, by cash sent to the Treasurer!)

Articles for Scatterpoint

News, views and articles for this newsletter are always welcome

Please send them to

editor@microwavers.org

The CLOSING date is the FIRST day of the month

if you want your material to be published in the next issue.

Please submit your articles in any of the following formats:

Text: txt, rtf, rtf, doc, docx, odt, Pages

Spreadsheets: Excel, OpenOffice, Numbers

Images: tiff, png, jpg

Schematics: sch (Eagle preferred)

Please send pictures and tables separately, as they can be a bit of a problem.

Thank you for you co-operation

Roger G8CUB

Reproducing articles from Scatterpoint

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You may not reproduce articles for profit or other commercial purpose. You may not publish Scatterpoint on a website or other document server.

UKμG Project support

The UK Microwave Group is pleased to encourage and support microwave projects such as Beacons, Synthesiser development, etc. Collectively UKuG has a considerable pool of knowledge and experience available, and now we can financially support worthy projects to a modest degree.

Note that this is essentially a small-scale grant scheme, based on 'cash-on-results'. We are unable to provide ongoing financial support for running costs – it is important that such issues are understood at the early stages along with site clearances/licensing, etc.

The application form has a number of guidance tips on it – or just ask us if in doubt! In summary:-

- Please apply in advance of your project
- We effectively reimburse costs - cash on results (e.g. Beacon on air)
- We regret we are unable to support running costs

Application forms below should be submitted to the UKuG Secretary, after which they are reviewed/ agreed by the committee

www.microwavers.org/proj-support.htm

UKμG Technical support

One of the great things about our hobby is the idea that we give our time freely to help and encourage others, and within the UKuG there are a number of people who are prepared to (within sensible limits!) share their knowledge and, what is more important, test equipment. Our friends in America refer to such amateurs as “Elmers” but that term tends to remind me too much of that rather bumbling nemesis of Bugs Bunny, Elmer Fudd, so let’s call them Tech Support volunteers.

While this is described as a “service to members” it is not a “right of membership!”

Please understand that you, as a user of this service, must expect to fit in with the timetable and lives of

the volunteers. Without a doubt, the best way to make people withdraw the service is to hassle them and complain if they cannot fit in with YOUR timetable!

Please remember that a service like our support people can provide would cost lots of money per hour professionally and it’s costing you nothing and will probably include tea and biscuits!

If anyone would like to step forward and volunteer, especially in the regions where we have no representative, please contact the committee.

The current list is available at

www.microwavers.org/tech-support.htm

UKμG Chip Bank – A free service for members

By Mike Scott, G3LYP

Non-members can join the UKμG by following the non-members link on the same page and members will be able to email Mike with requests for components. All will be subject to availability, and a listing of components on the site will not be a guarantee of availability of that component.

The service is run as a free benefit to all members of the UK Microwave Group. The service may be withdrawn at the discretion of the committee if abused. Such as reselling of components.

There is an order form on the website with an address label which will make processing the orders slightly easier.

Minimum quantity of small components is 10.

These will be sent out in a small jiffy back using a second class large letter stamp. The group is currently covering this cost.

As many components are from unknown sources. It is suggested values are checked before they are used in construction. The UKμG can have no responsibility in this respect.

The catalogue is on the UKμG web site at www.microwavers.org/chipbank.htm

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Loan Equipment

Don't forget, UKuG has loan kit in the form of portable transceivers available to members for use on the following bands: **Contact Neil G4DBN for more information**

5.7GHz 10GHz 24GHz 47GHz(g8cub) 76GHz 122GHz(soon)

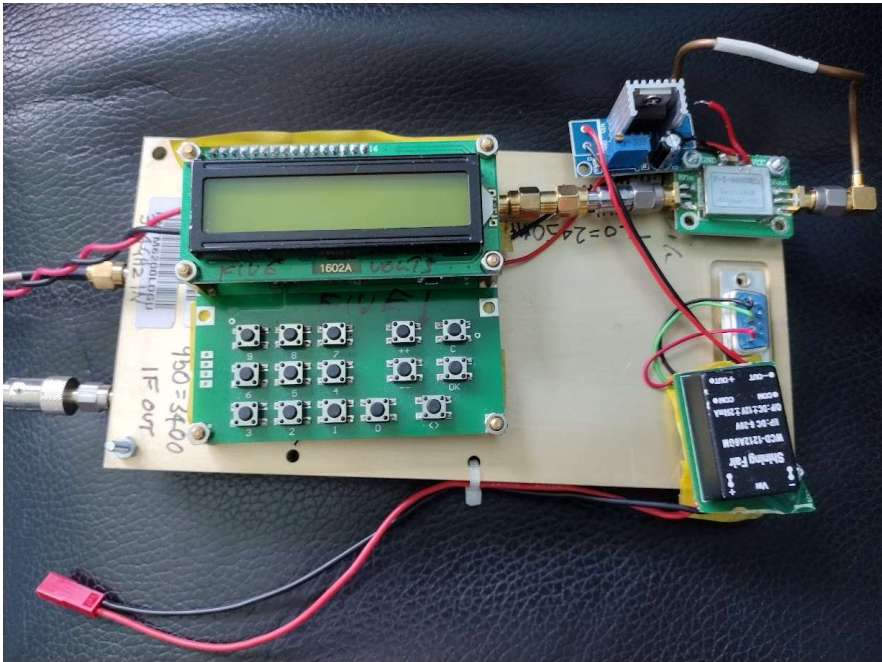
Adventures on 9cm

From Gareth G4XAT

As a relative beginner to the wonders of microwave operating I'm still feeling my way and building/trialling kit for the bands. Ironically the easiest and most reliable so far has been 24GHz, by virtue of one of those nice 2 Watt ODU transverters that popped up from Poland. The I/Fs required are taken care of by a ADALM Pluto under Langstone or Portsdown control, and it works very well. I read the recent Scatterpoint article about the increased activity on 3.4GHz and noted the interference problem mentioned. I have endured something similar here in my attempts to receive our local DATV repeater, GB3JV which outputs on 3.404GHz. I thought I was being organised by mounting a NOS DRO C band LNB on my chimney mast with a 3-D printed horn covered in aluminium tape and other than the frequency being a bit off, it certainly picked up a good signal, but it was literally 'bouncing up and down' to the point of no realistic AGC could cope with keeping it stable enough for a reliable decode. Interference from strong local signals was indeed the cause, so I sought a solution. Knowing pipe-cap filters offer a nice and narrow passband, are cheap to construct and easy to adjust I built and tuned one for 3.404GHz. Admittedly only using SATSAGEN but it seems to work well. This was inserted between a Flat-plate antenna recovered from a WIMAX ODU that also came from eBay. It's a 16-bay PCB unit (4x4 patches) and presents a reasonable match on 3.4. As I have a pair I have been using one for TX (up to 40W from a Toshiba amp) and by comparison to commercial units I believe the gain be about 18dBi. The output from the pipe-cap feeds a ¼ wave probe I fitted in the body of a Titanium C band LNB, spaced ¼ wave from the nearest existing probe. Much to my joy it actually worked, the inference was kept out of the LNB and the signal was stable enough for reliable DATV decodes. The LNB assembly did prove prone of self-oscillation however so something better was needed.

The IONICA system provided all sorts of goodies to the amateur fraternity, not least the excellent Stealth 'Purple heatsink' PAs but also rather nice RX front-ends. They are still available on eBay (<https://www.ebay.co.uk/itm/292083821678?hash=item44018d6c6e:g:mpsAAOSw2XFUhx0T>) and a web-search threw up the excellent DC2Light website where conversion information was detailed.

How times have changed though, no need to mess with changing anything really, just use as designed. So I did. An LO source was derived from a keyboard controlled ADF4351, set to 950MHz (in the middle of the original range), passed through a -6dB attenuator and then into a "5189" eBay 20dB amplifier. The internal noise diodes were deleted as per the original conversion information, leaving 3 gain stages, a PCB band pass filter on 3.4GHz, then into the mixer and subsequent filtering and further IF gain, adjustable too.





My first trial was feeding the RX with a double Bi-Quad-over-reflector for 3.4GHz, the whole lot rubber bungeed to a pole and put up at about 6m AGL in my garden. I was rewarded with an almost instant lock on the GB3JV output, and a very steady MER. No more wobbling.....I don't know how much pass-band the PCB filter has, but it's clearly enough to solve my problem. For the £40 one of these costs, and a few bits, it seems an ideal answer to getting going on the band. I don't know how much a SGLabs 3.4 transverter costs, but a RPi4, touch-screen and a Adalm Pluto might be similar. And just think how many other bands you can cover with it! Quite literally, 4m all the way up to 1.2cms (native mode up to 6cms, then as a flexible IF above).
Picture shows the trial assembly (which worked) and the converted LNB.

I was able to test the NF recently and it came out at 2.5dB, this is with the noise diodes removed as per the original DC2light website article. An excellent solution it turns out.
Also some pictures of my 'work-in-progress' tri-band dish (9/6&3cms) mounted on my own Tilt-O-Matic, about the only activity I have managed this month. RF tests when it cools down a bit!



Chipbank Update

Attached is a list of components donated to the Chipbank at RAL in June. They are available in ones and twos etc. Where five or more are available, they have been added to the Chipbank catalogue on the website. Mike, G3LYP

Surface Mount Components

Operational amplifiers

AD8604ARZ SOIC-14
 ADCMPBRJZ SOT23-5
 OPA341NA SOT23-6
 OPA1632D SOIC-8
 OPA1632DGA MSOP-8
 LM13700MX SOIC-16
 LT6231CS SOIC-8
 THS3202D SOIC-8
 THS3202DGN MSOP-8
 TL084 SOIC-14
 TL9721D SOIC-8
 TLV2462IDG4 SOIC-8

Operational amplifiers

AD8604ARZ SOIC-14
 ADCMPBRJZ SOT23-5
 OPA341NA SOT23-6
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 OPA1632DGA MSOP-8
 LM13700MX SOIC-16

LT6231CS SOIC-8
 THS3202D SOIC-8
 THS3202DGN MSOP-8
 TL084 SOIC-14
 TL9721D SOIC-8
 TLV2462IDG4 SOIC-8

Logic Devices

74ACT04 TSSOP-14
 74AC74 SOIC14
 74ACT74M SOIC-14
 74AC86 SOIC-14
 74ACT86 SOIC-14
 74CBT3253CD SOIC-16
 74HC4051 SOIC-16
 74LVC1G126W5-7 SOT23-5
 MC14027 SOIC16

Report from Clive GW4MBS

With all the recent dry hot weather, conditions have been quite poor, but that is not say there has been no activity. I have continued to work G4UVZ Taunton (124km) on 10GHz daily from home down in my valley albeit recently with quite weak signals.



The 1m dish the on the left supports the 10GHz rig and the 1m dish on the right the 5.7GHz rig. Both are on 9m Hilomasts but extending them makes no improvement relative to the height of the hill they are facing. The only reason to extend them is to clear the barn roof for other headings, but there is little to be heard other than the NE to SE sector where I can aim without extension. (The 6m beam on the right is in retracted mode)

I like the independence of separate masts and dishes for 10GHz and 5.7GHz. Rather than compromise with a dual band feed or independent feeds with differing off-sets. I can quite quickly switch I.F. to make comparisons between propagation from GB3SCX and GB3SCC. It also avoids overloading the mast with two transverters.

Much as I enjoy regular fixed station operation it is nice to go portable. This is not to the highest spot in Wales but a 10-minute drive to the top of the valley. It may seem an extravagance, but I have two identical 10GHz rigs, one for home and the other for portable.



Both are air-blown when the temperature rises to 40°C and in this weather that is needed as it is running continuously during the day. The idea of two rigs that are identical in construction and control/monitoring cables, is that in event of a failure I have a backup. As there are no beacons here that can be regularly heard it is useful to have a comparison system available. The main feature is that I found with just one rig it would be in the Land Rover when it started to rain at home then I don't want to get myself and the rig connectors soaked. Or I just wanted to nip up to the hilltop to search for a signal and don't want to have to dismantle the rig at home. The one rig always seemed to be in the wrong place when I wanted to use it!

My 35-year absence from amateur radio was due to my hobby of restoring military vehicles, at one time I had five armoured vehicles and a Land Rover. I now just have the Land Rover that is now used for portable operations. During the Summer I still attend some vehicle shows where I demonstrate operating on 80m/6m/2m CW only and 10GHz (any mode). This is either displaying by myself or with a group from VMARS. I meet a lot of amateurs and ex-signallers but very few have any grasp of what can be done on 10GHz.

The most recent trip was to IO91AQ South Cerney JAMC and being an airfield gave a clear take off in all directions. Every day I could work Adrian G4UVZ (113km) 59 +10 so we could use DV (digital voice). Despite the irony of being at the MOD Joint Air Movement Centre there were remarkably few aircraft to be seen or heard. In contrast when I tested to G4DBN (238km) Neil identified AS from up to eight aircraft that lifted my signal to S6 at one stage. The only other test was to Peter GW4JQP (218km) who despite the scorching weather set up on his garage roof, but we were only able to exchange S2 signals. Both Neil and Peter had local obstructions, so I am grateful for what we achieved and without the pressure of a contest gave plenty of time to fiddle around.



If anyone wonders from the photo what is vintage (apart from myself) it is Clansman RT-320 that I use on 80m. I have to practice CW somehow!

In the last week of August, I will be operational at the Great Dorset Steam Fair IO80WV for six days where I expect GB3SCX will be a devastating signal. That weekend coincides with the 10GHz contest, although I am happy to fix skeds for other times as well.

I suspect that microwavers may be a bit more tuned into EMF assessments than perhaps the average amateur who may be circumspect about their EMF responsibilities. I always have copies of my assessments when I am out portable and in particular if I am making a spectacle of myself at a show. Recently I was engaged with one visitor when the topic of EMF assessments was brought up. I was very pleased to offer my assessments to my visitor who turned out to be an OFCOM Director. It was his day off and the meeting was very cordial, so you never know who is out there. I am glad that I had done my assessments and I hope I had shown microwave amateur radio in a constructive light.
Clive Elliott GW4MBS

More Lessons Learnt

Concerned about the less than T9 note of my 134 GHz Tx I finally realised it was the rotating blades of the PSU cooling fan doppler modulating the output signal leakage I was listening to from the final X4 multiplier!

I found two examples of the eBay ADF5355 synth pcb were giving very low output, about 10db less than expected when set to give +5dbm in Hex. The Chinese board here does not have the collector load inductors in the output push pull circuit as shown in the datasheet. It has resistors instead. Changing these Rs for inductors raises the output level but not to the expected correct value as there are also a number of zero-ohm links in the output signal path. These will not be zero inductance of course and are the likely cause of the slightly reduced output even after inductors are installed.

73s John G8ACE

News

Sale of Kuhne Electronic

[https://www.kuhne-electronic.com/userdata/files/Kuhne%20acquisition%20-%20press%20release%20-%201%20July%202022\(2\).pdf](https://www.kuhne-electronic.com/userdata/files/Kuhne%20acquisition%20-%20press%20release%20-%201%20July%202022(2).pdf)

Hopefully all the Amateur products will continue to be sold....

Editors Comments

Thanks for the contributions this month. I have finally completed my move to Marlborough. I just have to now move out again while building work is completed!

I look forward to seeing many of you at the Crawley Round Table.

Roger G8CUB

Report on the 2022 Finningley Microwave Round Table

There were probably 20 - 25 attendees on each day, but not all the same faces each day. Numbers were down on previous Finningley round tables but this may be due to RAL having been the week before and the Covid effect.

On the Saturday, there were talks by Bryan on NVNA, supplemented by a hands-on session, and Heather on SDR. On Sunday, Barry (me) gave a talk on 30THz.

Bob G4APV and I gave demos of 122GHz on Saturday and 30THz on Sunday.

Test gear was available for attendees to use, thanks to Kevin, and there was ample opportunity for attendees to chat over coffee and hunt for "goodies" in the FARS club store.

A good two days, all round.

73

Barry, G8AGN

Microwave Round Table Dates

Crawley 18th September 10.30 -14.00

Scottish 22nd October 1030 – 17.00

Midlands 3rd December 10.00 – 16.00

EME Conference Prague 2022

The proceedings of the 2012 EME conference held in Cambridge UK are now available on the UK Microwave Group web site here:

<https://www.microwavers.org/eme2012/eme/psa.html>

Thanks go to the RSGB for allowing us to post the content. Please acknowledge the RSGB/UKuG if any of the material is onward distributed.

Enjoy a good read, there are many interesting papers included.

73

John G3XDY

The next of these truly international EME Conferences takes place in Trenton, New Jersey, under the direction of Al Katz, K2UYH.

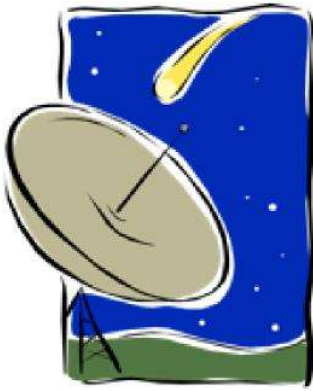
After many years absence, from being staged on the other side of the Atlantic, it makes a welcome return to USA shores.

If you are into, or think about having a go at EME, this conference should be worth attending.

73

Sam G4DDK

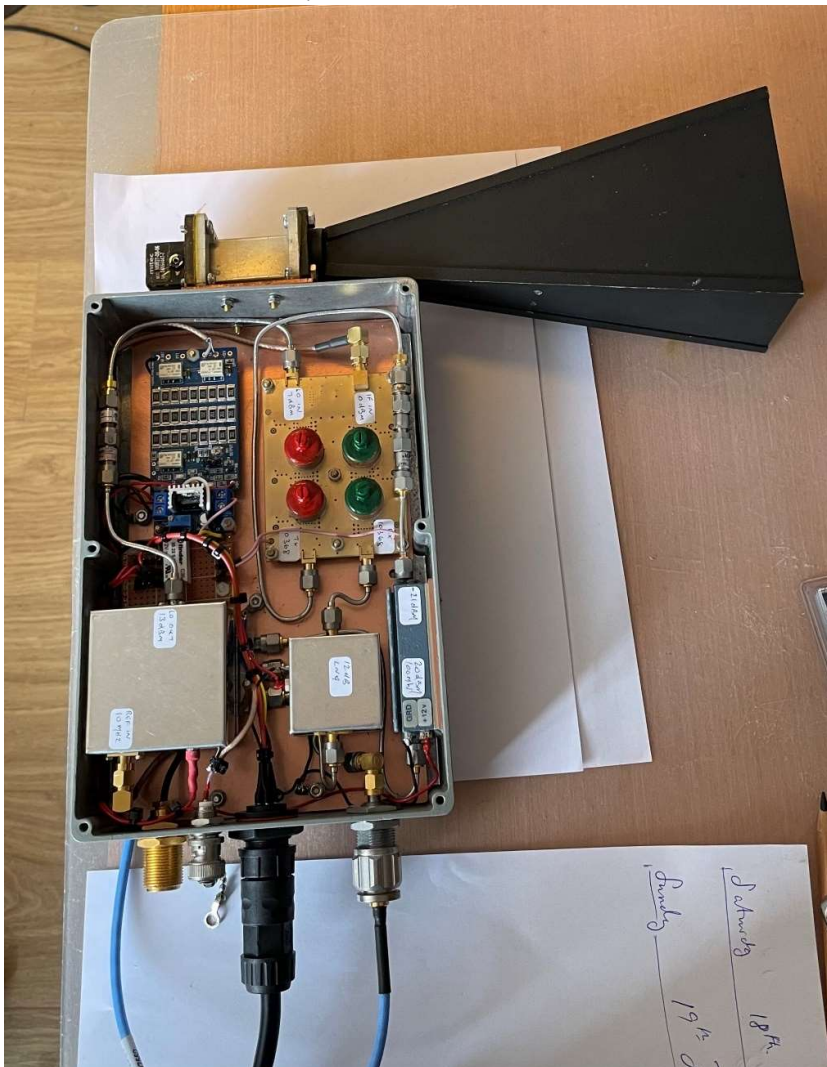
Activity News: July 2022



By John G4BAO

Please send your activity news to: scatterpoint@microwavers.org

From Paul GW0MDQ



Good news in that I've recently received an email from Ofcom to tell me that my application for the GB3UVR 10GHz beacon was successful and has been approved. It will be located at Treuddyn, IO83KC. The beacon will be at my home QTH and fitted on top of the TV antenna pole. It is licenced for 11metres AGL max. The callsign is in memory of the late G3UVR. Denis was a really active VHF and Microwaver from the Wirral. Details are below.

Frequency 10368.790
Power 13dBW EIRP
Antenna Direction North East
Antenna max height 11 metres
Emission type 1K00F1AAN



I've been busy building another simple transverter to go on the mast outside so I can monitor the local activity, it consists of a W1GHZ transverter, DF9NP Local Oscillator, surplus PA at 100mW and a preamp built from a cut down satellite board. I have to give credit to Rob G7MHF here who has been a tremendous help tuning up the transverter and measuring the levels on his test equipment. Rob is busy with his own microwave projects at the moment which include several 10Ghz and 24Ghz transverters.

Stations worked through June my QTH near Mold North Wales include G4DBN, G4CLA, G3ZME/P and G4ZTR who is now by best DX at 300KIm (all with Rain Scatter). The best contact of the month has to be with Neil G4DBN on Saturday 30th July, we exchanged reports on SSB before switching over to FM where we talked for about 40 minutes before the rain died down. Neil's QTH is about 100miles from me over the Pennines!

From Murray G6JYB – RSGB Spectrum Forum Chair

Commenting on the new GB3UVR beacon licence. "That is great and significant news, as new beacon licences are rare on that band!"

It is timely to be aware that numerous beacon NoVs for dead, long term off or never built systems will be expired after Christmas, so please do make the most of those that are around - UKuG has plenty of cash to support their hardware/repairs/upgrades

3.4GHz propagation report from Nick G4OGI

I receive PI7ALK and PI7RTD all the time here and when they are very weak, I can still see their troposcatter signals, albeit at less than 3dB above noise but clearly with +/- 10Hz scatter. During the week commencing 8th of August we saw the start of influence from another High-pressure system, and I got a bit frustrated by not seeing any signs of the two Midlands beacons GB3OHM and GB3ZME on 3.4GHz. I thought the “much higher powered” beacons would exhibit the same characteristics as the PA beacons but with stronger scatter. Sadly, after weeks of searching nothing. So, something learned there.

Not disillusioned, as this run of good evaporation duct propagation has revealed further opportunities. For a long time, I have noticed how GB3MHZ (and PI7RTD) signals are reflected via the large London Array Wind Farm (177 turbines). When I set up my dish for 9cm I was very careful to point the dish with maximum response from PI7ALK which implied as near to 0 deg as possible (actually between about 0.0 – 0.2 deg) This had the benefit of reducing wind turbine blade swash. That is when I noticed the specular reflection from GB3MHZ from the London Array. Whilst highly variable in strength dependent upon weather/sea conditions it is clear there is a ~20dB (3 S-points) jump in signal when my dish points at the extreme Western or Eastern edges of the farm. It came as a bit of a surprise this week when doing some measurement on this effect to have noticed an additional weak signal on 3400.921 MHz. The narrow shift and unstable propagation conditions made for a choppy and difficult to read signal. A quick check on the microwave group and Neil BRK suggested it could be GB3ZME. Listening to my recording again and I found that it was GB3ZME. It seems to be an early morning propagation effect and typically between 03.00 – 07.00utc I managed to copy quite good signals from GB3ZME and GB3OHM when pointing at the extreme western edge of the Array. For reference GB3MHZ is currently s7 via this route – normally s3 on the direct “through the trees route”.

From Phil G0JBA



I recently got my 9cm system installed at home, it consists of a 1.2m dish with multi band ring feed. Kuhne 432-3400 Transverter. 12db Pre-Amp. Band Pass filter and SSPA 28v from Kuhne. 1.5db NF and 20W from SSPA. I use an Icom 705 for the I.F. Radio.

QSOs so far as follows

11th August

G4ODA 193km 57-58 SSB Skew Path 72Deg North Sea Duct

G4ODA 193km direct 58-59 SSB

G3XDY 91km 59++++ both ways. John said strongest signal he had ever heard on the band

G4ZTR 80km 59-59SSB

GM3UAG 714km 55-57 SSB Skew Path 83Deg

13th August

GM4JTJ 649km 59-59 easy SSB QSO beam Skew path 62Deg

I have heard the LA1UHG Beacon for 3 days solid at 1044Km 3400.852MHz.

Also Spotted OZ beacons. PA beacons very loud here at my QTH 5km from the North Sea/English Channel.



From John G3XDY

Phil G0JBA has already updated us on his initiation on 9cm over the past couple of days. Apart from GB3MHZ his signal is the strongest I have ever heard on 9cm (59+50dB on the K3 S meter), over the Thames Estuary, distance 88km between JO02OB and JO01PG. Besides Phil I was pleased to work Gordon G8PNN in IO95EF for square no. 50 on 9cm. Absolutely nothing was heard on the direct path, but I could hear him weakly on almost any heading with the dish between West-South-East, best was just south of east between 100-110 degrees, where signals came up to S7 and occasionally touched S9. I also worked OZ9PP (JO47) on 9cm on CW, but signals were weak. In other news GB3MHZ on 1296.830MHz is temporarily off air, apparently losing lock and sprogging across the whole band, so I remotely switched it off. There is no ventilation in the beacon room, and a lot of solar gain, so the ambient temperature may well have been well over 40 degrees at the time. I will recover the exciter unit to check it out early next week and hope to get it back on air soon.

From Barry G8AGN

No operating activity to report in the past month I'm afraid but have been building a stand-alone Tx for 122GHz with Hell/CW modulation via a PIN diode attenuator. I have also started to play with a Ublox C94-M8P antenna pointing system, as described by David VK3HZ in DUBUS 3/2019. Hopefully it will be cool enough to go outside soon but at least everywhere here is still very green, thanks to rain after the last heatwave.

From Paul M0EYT

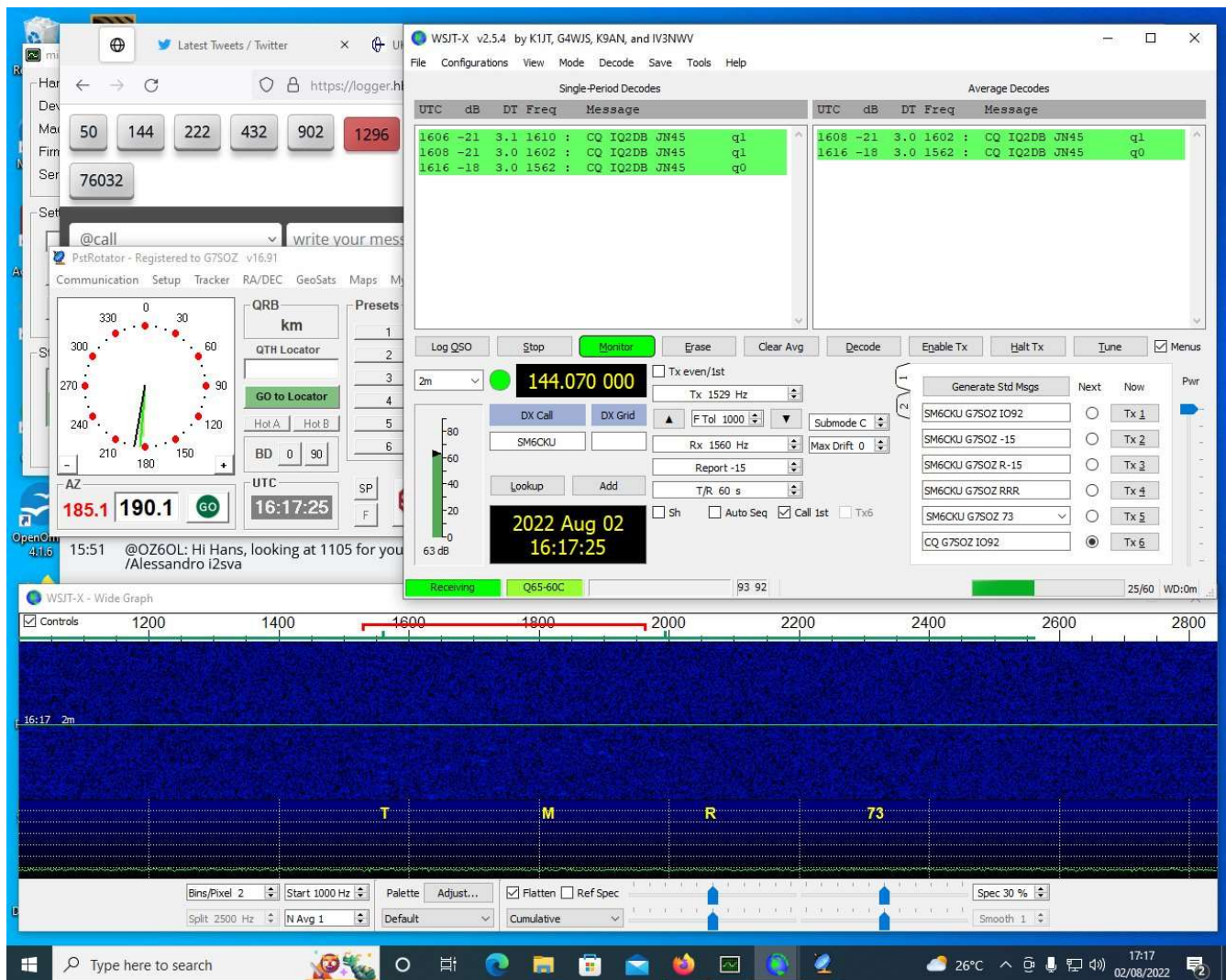
Activity report for the 31st of July 10/5.7GHz cumulative which I ran from the Tyneham View car park down on the Purbecks in Dorset. Overall, a reasonable day, 18 worked on 10G and 8 on 5.7G. The great French firewall was present, not sure how to circumvent this but luckily it doesn't extend as far as Belgium where 2 stations were worked. Conditions seemed OK with a few UK beacons being copied on 10G. Some enormous signals on 5.7G were noted, I even had a couple of random QSO's by tail ending stations that were working each other that I could hear, one station remarked that it was like operating on 80M (I've heard of that!!). My best DX of the day was ON4CJQ/P and ON/PA0MHE. It was nice to work Rob M0DTS/P as well as I'd not worked him terrestrially before. A nice day out with good weather, some RS was noted towards the north, but it didn't help with any QSOs.

From Steve G1PPA

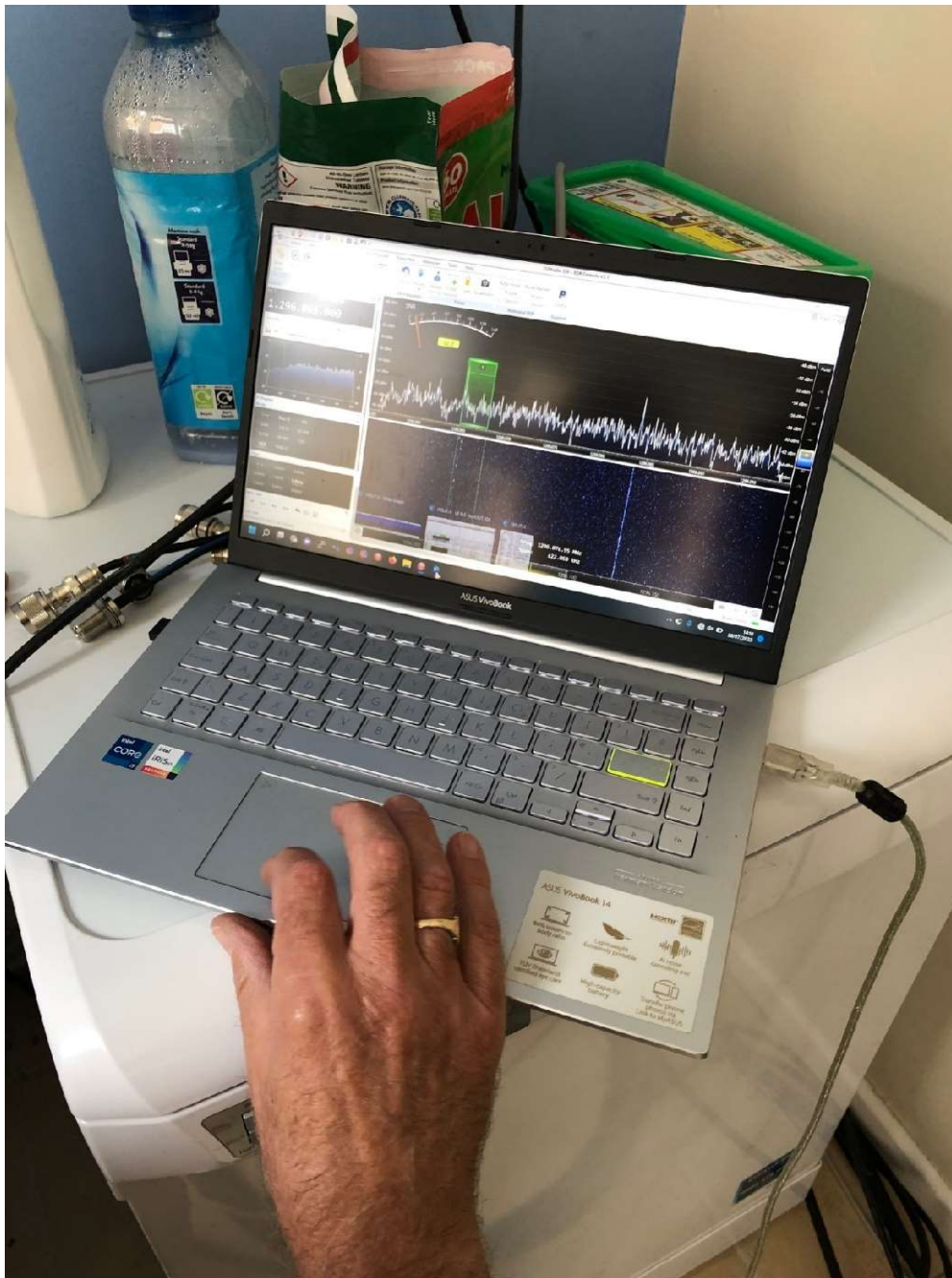
Unfortunately, I can't operate from home, but continue to improve my portable set up I recently had a complete change of transverter position on the mast for 3cm, 6cm and 13cm, which resulted in some new contacts on both 3 and 9 in last group contest, and in UKAC. I hope to be active on 24GHz soon. When operating portable, I use a 65cm Gilbertini dish with two feeds. I G3PHO plumbers feed for 3cm and G4DBN feed offset by 3deg, for 6cm. The 3cm transverter is fitted on the feed arm 6cm on the mast behind dish. Above the dish is 13cm transverter and a Wimo 40 ele Yagi, all rotated with either Spid or a Yaesu rotator. Mast height is 4.5 metres, and the whole thing takes between 1 hour 30 mins to set up including lining dish up on beacons, then around 45 minutes to pack up and get off home.



Since autumn, John, G4BAO's, 23cm dish had been sat in my garden, it was a daily sight reminding me that I must get it all up and working! In the run up to my summer break I'd spent time gathering bits and pieces ready to get the dish mounted, and hopefully, all up and running on RX. With lots of help from John we spent a day mounting the dish on the rotator/mount - boy did it look bigger when set up!! Enthusiasm then kicked in and we quickly mounted the feed, powered up the G4DDK VLNA, and boded together enough cable to feed a Funcube Dongle and try RX (whilst discovering you can never have enough connectors and adaptors!!). With everything connected, we calibrated the dish against the sun and checked that everything was working. John put a message out on HB9Q and the Volta EME Team fired up their system.



Huddled over his laptop - carefully balanced on my dishwasher (my system is in my utility room!!)- there were lots of whoops and fist bumping as we saw their signal! The next day I heard signals from SM6CKU and then a few days later, having received some WSJT-X help from John, I decoded IQ2DB - I was quite literally over the moon! Since then I've made some more changes including to the transverter arrangement at the dish, power feeds to the dish and the radios. I've also been learning about measuring sun noise and continuum mode etc.! Next step is to do some more RX tests during an activity contest before starting work on the TX side of things. A huge thank you to John, G4BAO, Geoff, GODDX and Sam, G4DDK who have helped me get this far.



From Ed G3VPF

And finally.... a bit of a "tale of woe" from Ed.

I tried to operate on the last 5.7/10 contest, but met a problem which is increasingly common here in the South-West in the holiday season. I spent the morning driving around south and west Dorset trying to find a hilltop parking spot that was not occupied by a motor caravan 'wild camping'! After an hour and half and a lot of miles covered, I abandoned any hope of operating and went home.

UKuG MICROWAVE CONTESTS – 2022

24GHz/47GHz/76GHz Contest July 2022

Many entrants remarked on the very hot weather, but this did not impede propagation, with 24GHz appearing above average for several stations.

Congratulations to the following:

24GHz Winner – Martyn G3UKV/P

24GHz Runner Up – Dave G1EHF/P

47GHz Joint Winners – Neil G4LDR/P & John G8ACE/P

76GHz Winner – Roger G8CUB/P

76GHz Runner Up – John G8ACE/P

John G3XDY

UKuG Contest Manager

24GHz Contest July 2022

Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX kms
1	G3UKV/P	IO82QL83	5	512	G1EHF/P	147
2	G1EHF/P	IO91GI44	4	201	G3UKV/P	147
3=	G4SJH/P	IO91GI44	3	175	G3UKV/P	147
3=	G8CUB/P	IO91GI25	3	175	G3UKV/P	146
5=	G4LDR/P	IO91GC68	3	79	G8CUB/P	27
5=	G8ACE/P	IO91GC68	3	79	G8CUB/P	27

47GHz Contest July 2022

Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX kms
1=	G4LDR/P	IO91GC68	3	80	G8CUB/P	27
1=	G8ACE/P	IO91GC68	3	80	G8CUB/P	27
3=	G1DFL/P	IO91GI25	4	57	G4LDR/P	27
3=	G8CUB/P	IO91GI25	4	57	G8ACE/P	27
5	G1EHF/P	IO91GI44	4	56	G8ACE/P	26

76GHz Contest July 2022

Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX kms
1	G8CUB/P	IO91GI25	3	55	G4LDR/P	27
2=	G4LDR/P	IO91GC68	1	27	G8CUB/P	27
2=	G8ACE/P	IO91GC68	1	27	G8CUB/P	27
4	G1DFL/P	IO91GI25	1	1	G8CUB/P	1

24/47/76GHz Championship Tables 2022

Positions after two events, best three count to the final total

24GHz

Pos	Callsign	15/05/2021	10/07/2021	TOTAL
1	G3UKV/P	529	1000	1529
2=	G(W)4FRE/P	1000	0	1000
2=	G4SJH/P	659	341	1000
4	G8CUB/P	235	341	576
5	G1EHF/P	0	392	392
6	G4LDR(/P)	152	154	306
7	G8ACE/P	145	154	299
8	G1DFL/P	281		281

47GHz

Pos	Callsign	15/05/2021	10/07/2021	TOTAL
1	G8ACE/P	314	1000	1314
2	G8CUB/P	597	712	1309
3=	G(W)4FRE/P	1000	0	1000
3=	G4LDR/P	0	1000	1000
5	G1DFL/P	6	712	718
6	G1EHF/P	0	700	700

76GHz

Pos	Callsign	15/05/2021	10/07/2021	TOTAL
1	G8ACE/P	1000	490	1490
2	G8CUB/P	38	1000	1038
3	G4LDR/P	0	490	490
4	G1DFL/P	38	18	56

UKuG MICROWAVE CONTEST CALENDAR 2022

Dates, 2022	Time UTC	Contest name
28-Aug	0600 - 1800	4th 5.7GHz Contest
28-Aug	0600 - 1800	4th 10GHz Contest
11-Sep	0900 - 1700	3rd 24GHz Contest & 24GHz Trophy
12-Sep	0900 - 1700	3rd 47GHz Contest
12-Sep	0900 - 1700	3rd 76GHz Contest
25 -Sep	0600 - 1800	5th 5.7GHz Contest
25 -Sep	0600 - 1800	5th 10GHz Contest
16 -Oct	0900 - 1700	4th 24GHz Contest
16 -Oct	0900 - 1700	4th 47GHz Contest
16 -Oct	0900 - 1700	4th 76GHz Contest
13 -Nov	1000 - 1400	5th Low band 1.3/2.3/3.4GHz

Wanted

David Butler G4ASR is looking for a coaxial relay (ideally 4-port) that can handle 25W at 10GHz.

He also needs 2 x WG16 - SMA transitions.

g4asr@btinternet.com 01873 860679

For Sale

A few months ago, I bought a new heavy duty linear actuator for my EME dish elevation drive. It's a QARL3636+ with about 900mm extension, which I think cost me around £300. It's eminently suitable for ex-professional 1.8 - 2.4m offset dishes.

I've since redesigned my mount, and this actuator has turned into rather serious overkill! Rather than let it moulder in the corner of my workshop, I'd like to find it a good home. I disposed of the packing and finding a way of repackaging it is not really on my list! I'd be prepared to sell it for about £150 collected from here. For a contribution to my fuel costs, I'd be prepared to meet up in the Taunton area to pass it over.

Chris G4DGU

Please contact the editor is interested, and I will pass the message on, as Chris is no longer a member.

MICROWAVE CONTESTS - 2022

Month	Contest name	Certificates	Date 2022	Time GMT	Notes
Jan	1.3GHz Activity Contest	Arranged by RSGB	18-Jan	2000 - 2230	RSGB Contest
Jan	2.3GHz+ Activity Contest	Arranged by RSGB	25-Jan	1930 - 2230	RSGB Contest
Feb	1.3GHz Activity Contest	Arranged by RSGB	15-Feb	2000 - 2230	RSGB Contest
Feb	2.3GHz+ Activity Contest	Arranged by RSGB	22-Feb	1930 - 2230	RSGB Contest
Mar	Low Band 1296/2300/2320/3400MHz	F, P,L	6-Mar	1000 - 1600	First 4 hours coincide with IARU event
Mar	1.3GHz Activity Contest	Arranged by RSGB	15-Mar	2000 - 2230	RSGB Contest
Mar	2.3GHz+ Activity Contest	Arranged by RSGB	22-Mar	1930 - 2230	RSGB Contest
Apr	Low Band 1296/2300/2320/3400MHz	F, P,L	10-Apr	1000 - 1600	
Apr	1.3GHz Activity Contest	Arranged by RSGB	19-Apr	1900 - 2130	RSGB Contest
Apr	2.3GHz+ Activity Contest	Arranged by RSGB	26-Apr	1830 - 2130	RSGB Contest
May	REF/DUBUS EME 1.2GHz	Arranged by REF/DUBUS	7-May to 8-May	0000 - 2400	REF/DUBUS EME 1.2GHz
May	432MHz & up	Arranged by RSGB	7-May to 8-May	1400 - 1400	RSGB Contest
May	10GHz Trophy	Arranged by RSGB	8-May	0800 - 1400	Sunday, to coincide with IARU
May	Low Band 1296/2300/2320/3400MHz	F, P,L	8-May	0800 - 1400	Aligned with IARU event
May	24GHz/47/76GHz		15-May	0900-1700	
May	1.3GHz Activity Contest	Arranged by RSGB	17-May	1900 - 2130	RSGB Contest
May	2.3GHz+ Activity Contest	Arranged by RSGB	24-May	1830 - 2130	RSGB Contest
May	REF/DUBUS EME 10GHz & Up	Arranged by REF/DUBUS	28-May to 29-May	0000 - 2400	REF/DUBUS EME 10GHz & up
May	5.7GHz/10GHz	F, P,L	29-May	0600-1800	
Jun	REF/DUBUS EME 2.3GHz	Arranged by REF/DUBUS	4-Jun to 5-Jun	0000 - 2400	REF/DUBUS EME 2.3GHz
Jun	Low Band 1296/2300/2320/3400MHz	F, P,L	5-Jun	1000 - 1600	Aligned with some Eu events
Jun	1.3GHz Activity Contest	Arranged by RSGB	14-Jun	1900 - 2130	RSGB Contest
Jun	2.3GHz+ Activity Contest	Arranged by RSGB	21-Jun	1830 - 2130	RSGB Contest
Jun	5.7GHz/10GHz	F, P,L	26-Jun	0600-1800	
Jul	REF/DUBUS EME 5.7GHz	Arranged by REF/DUBUS	2-Jul to 3-Jul	0000 - 2400	REF/DUBUS EME 5.7GHz
Jul	VHF NFD (1.3GHz)	Arranged by RSGB	2-Jul to 3-Jul	1400 - 1400	RSGB Contest
Jul	24GHz/47/76GHz		10-Jul	0900-1700	
Jul	1.3GHz Activity Contest	Arranged by RSGB	19-Jul	1900 - 2130	RSGB Contest
Jul	2.3GHz+ Activity Contest	Arranged by RSGB	26-Jul	1830 - 2130	RSGB Contest
Jul	REF/DUBUS EME 3.4GHz	Arranged by REF/DUBUS	30-Jul to 31-Jul	0000 - 2400	REF/DUBUS EME 3.4GHz
Jul	5.7GHz/10GHz	F, P,L	31-Jul	0600-1800	
Aug	1.3GHz Activity Contest	Arranged by RSGB	16-Aug	1900 - 2130	RSGB Contest
Aug	2.3GHz+ Activity Contest	Arranged by RSGB	23-Aug	1830 - 2130	RSGB Contest
Aug	5.7GHz/10GHz	F, P,L	28-Aug	0600-1800	
Sep	24GHz/47/76GHz		11-Sep	0900-1700	
Sep	ARRL Microwave EME	Arranged by ARRL	17-Sep to 18-Sep	0000 - 2359	ARRL EME 2.3GHz & Up
Sep	1.3GHz Activity Contest	Arranged by RSGB	20-Sep	1900 - 2130	RSGB Contest
Sep	5.7GHz/10GHz	F, P,L	25-Sep	0600-1800	
Sep	2.3GHz+ Activity Contest	Arranged by RSGB	27-Sep	1830 - 2130	RSGB Contest
Oct	432MHz & up	Arranged by RSGB	1-Oct to 2-Oct	1400 - 1400	IARU/RSGB Contest
Oct	1.3 & 2.3GHz Trophies	Arranged by RSGB	1-Oct	1400 - 2200	RSGB Contest
Oct	ARRL EME 50-1296MHz	Arranged by ARRL	15-Oct to 16-Oct	0000 - 2359	ARRL EME Contest
Oct	24GHz/47/76GHz		16-Oct	0900-1700	
Oct	1.3GHz Activity Contest	Arranged by RSGB	18-Oct	1900 - 2130	RSGB Contest
Oct	2.3GHz+ Activity Contest	Arranged by RSGB	25-Oct	1830 - 2130	RSGB Contest
Nov	ARRL EME 50-1296MHz	Arranged by ARRL	12-Nov to 13-Nov	0000 - 2359	ARRL EME Contest
Nov	Low Band 1296/2300/2320/3400MHz	F, P,L	13-Nov	1000 - 1400	
Nov	1.3GHz Activity Contest	Arranged by RSGB	15-Nov	2000 - 2230	RSGB Contest
Nov	2.3GHz+ Activity Contest	Arranged by RSGB	22-Nov	1930 - 2230	RSGB Contest
Dec	1.3GHz Activity Contest	Arranged by RSGB	20-Dec	2000 - 2230	RSGB Contest

Sections	F	Fixed / home station
	P	Portable
	L	Low-power <10W 1.3/2.3/3.4GHz, <1W 5.7GHz)
Main changes from 2021 calendar		
122GHz+ events removed (no fixed dates in 2022)		

EVENTS 2022

For the latest information please see: <https://microwavers.org>

2022

September 18 Crawley Roundtable, Crawley club, Tilgate forest
September 25-30 2022 European Microwave Week, Milan, Italy
October 7-9 RSGB Convention
October 15-15 National Hamfest
October 22 Scottish Roundtable
December 3 Midlands Roundtable – Eaton Manor SY6 7DH

[CARC – Crawley Amateur Radio Club](#)
www.eumweek.com

<https://www.gmroundtable.org.uk>

80m UK Microwavers net

Tuesdays 08:30 local on 3626 kHz (+/- QRM)

73 Martyn Vincent G3UKV

Late News



David Butler G4ASR passes on the news that the Hereford Amateur Radio Society now have 10 members that are active on the 5.8 GHz band using FPV drone modules.

By simply injecting 1-volt of audio into the dominant video channel, contacts on wideband FM are being made amongst club members up to 70km away. Signals are always S9, fully quietening. One 140km contact has been made between G8XYJ/P and G4JLG/P but the Hereford club are looking for stations even further afield. Please let us know if you are considering getting active on 5.8GHz wbfm.

The photos show the simple breadboard approach used by David G4ASR. An RF head unit fitted to a surplus Sky dish, with audio sent back to an LM386 amplifier the operating shack.